

ACNReport

Winter 2004

Vol. III, No. 4

A National Security and Emergency Preparedness (NS/EP) Support Program of the National Communications System

Membership Review

When the National Communications System (NCS) published the Fall 2004 edition of this newsletter last October, the Alerting and Coordination Network (ACN) consisted of 32 sites. Since then, the NCS has added five members: Americom, Intrado, Inc., Level 3 Communications (GA and CO), and McLeodUSA.

ACN's mission is to provide emergency communications connecting telecommunications service providers' network and/or emergency operation centers (EOC) to support network restoration coordination when the public switched network (PSN) is inoperable or congested.

This mission cannot be fulfilled without capable, qualified network members. Accordingly, potential ACN members must meet several criteria. The facilities where ACN phones are located must have

physical security in place to ensure that unauthorized users cannot gain access. Members should possess a 24x7 EOC, or they should have the capability to be on call 24x7 if no EOC exists.

Various industry and Government entities comprise ACN's current membership. Some members are licensed by the Federal Communications Commission to provide communications services beyond local access and



A user dials the ACN phone.

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Return of the Ring-Down

ACN Administrators Alter the Monthly Voice Test Procedures

Every month, Alerting and Coordination Network (ACN) administrators conduct tests on all Voice over Internet Protocol (VoIP) phones within the network, checking for serviceability, voice quality and overall performance. Initially, administrators accomplished this by ring-down testing, or calling each user individually to check the connection.

In September 2004, network administrators changed the procedure for the monthly voice testing. On a trial basis, they began performing monthly blast-out calls via the ACN conference bridge. Their objective was to determine whether this was a more effective and efficient way to conduct the voice tests each month. While the blast-out testing proved relatively successful, after carefully weighing both options during the three-month trial period ending in November, ACN administrators decided that the original ring-down method was more effective.

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ACN News

A Brief Summary of the Latest ACN Happenings

User Manual Update

Every Alerting and Coordination Network (ACN) member should have a copy of the ACN User Manual; please refer to this manual for any questions about ACN equipment or the network in general. However, ACN has evolved considerably since the User Manual was published in January 2003. A revised version of the ACN User Manual is forthcoming; in the meantime, please use the following update of important ACN contact information.

Please write this information down and keep it near your ACN phone until the new User Manuals are distributed.

ACN Program Manager

Mr. Don Smith

ACN Program Management Phone

1-866-NCS-CALL (Toll Free)

1-703-676-CALL

4117 (ACN Ext)

ACN Program Management E-mail

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NCS E-mail

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ACN Help Desk Phone

1-877-441-9330 (toll free)

1-703-752-6836

ACN Help Desk E-mail

smc@arrowhead.com

ACN Help Desk

The Service Management Center (SMC), which addresses your customer support needs, is now referred to as the ACN Help Desk. The ACN Help Desk is available to all members 24x7. Just dial 4357 (HELP) on your ACN phone for assistance.

ACN Conference Bridge number

ACN provides to its users the ability to conduct and participate in conference calls with other ACN members. ACN users can access the ACN conference bridge by dialing extension 4071.

Voicemail/Password Procedures

Any voicemail you receive on your ACN phone can be accessed via password. To access your ACN voice mailbox, press the "Voicemail" button on the phone or dial extension 3219, enter your assigned extension, and press the # key. The ACN phone will then prompt you to enter your password. Your default ACN password is your assigned extension, listed backwards. For example, if your ACN extension is 4106, then your password is 6014. The exception to this rule is any extension that would be the same both ways, such as 6116. In these cases, replace the first digit of your four-digit extension with a "9." So, if your ACN extension is 6116, your default password would be 9116. After entering your password, press the # key. Follow the automated prompts to check your voicemail messages.

You are encouraged to change your password from the default. To change your password, access your voice mailbox and enter options "5" and "4" on the automated menu. Then follow the prompts to change your password.

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Network administrators decided to switch back to ring-down testing for two reasons: to maintain the ability to leave voicemail, and to test voice quality. Since administrators are unable to leave voicemail when conducting tests via the blast-out method, there was no way to indicate to an absent ACN member that the test had been conducted.

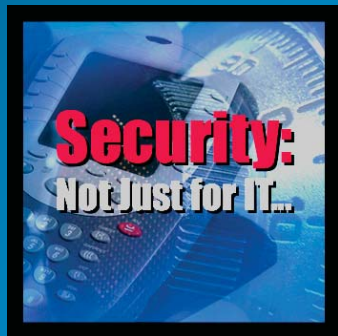
The second factor that led network administrators to switch back to ring-down testing was quality assessment. A primary reason administrators conduct the monthly voice tests is to determine the quality of each connection. Blast-out testing does not permit the administrators to evaluate phone call quality on an individual basis.

ACN administrators switched back to ring-down testing as of December 2004.

Wall of Security

The Firewall that Protects ACN

Christopher Leverich
Security Analyst



Did you ever wonder what kind of firewall the Alerting and Coordination Network (ACN) uses? Chances are good you already know that ACN's mission is to provide emergency communication lines when the public switched network (PSN) is stressed or congested. You also know it is a secure means of voice transmission, as it is not logically dependent on the PSN. But do you know exactly how ACN monitors and controls inbound and outbound network activity? Or how it is able to effectively protect critical voice traffic?

You may use a commercial firewall on your personal computer at home, and with good reason. Firewalls filter network traffic and determine whether or not information packets reach their destinations. And while

comprised of a primary hardware device and associated support devices. Its job is to secure the voice network against offensive or illicit entry and manipulation by means of patented call-type detection technology.

How does it accomplish this feat? Sitting between the private branch exchange (PBX) and the PSN, ACN's voice firewall filters traffic between PSN-connected circuits and the PBXs. It is able to identify, record and manage incoming and outgoing network telecommunications. It protects ACN from back-door access by preventing connection to ACN from an outside network, such as the PSN. It also has real-time alert and call termination capabilities, enabling ACN to transmit instantaneous security event alerts. Its Centralized Policy Administration feature allows administrators to manage security and usage guidelines centrally.

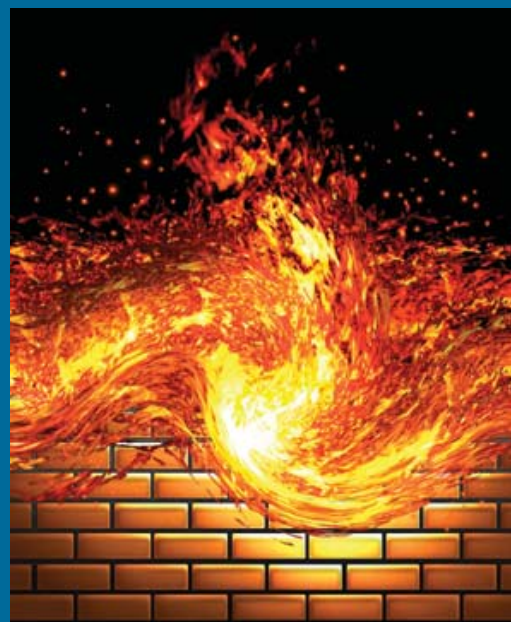
ACN administrators vigilantly monitor the network using a variety of techniques; the firewall outlined above constitutes just one part of ACN's defense-in-depth strategy.

Mr. Leverich is a Security Analyst for Arrowhead Global Solutions, under contract to the NCS.

“...firewalls are not just for computers. They can just as easily protect a VoIP network...”

you may never have stopped to think about it, firewalls are not just for computers. A firewall can just as easily protect a Voice over Internet Protocol network, such as ACN, that digitizes voice data and disseminates it in the form of packets. So, it stands to reason that a network serious about secure communications probably has a firewall just as serious.

ACN deploys a voice firewall to protect network traffic from the PSN. The voice firewall does just what you would expect: enforces the boundary of the network and limits access in accordance with National Communications System policies. This includes securing servers, inspecting data packets and detecting and responding to intrusions. The voice firewall is



Did You Know?

The touch-tone telephone, which uses tones rather than rotary-generated pulses, is hardly a recent innovation, but it has been around for longer than you might have guessed. While touch-tones did not begin finding their way into individual homes until the early 1960s, the first touch-tone system ever was installed in Baltimore, MD, in 1941.

Though initial touch-

tone phones were far too expensive for personal home purchase, the dialing speed the phones allowed encouraged communications companies to continue their development. When touch-tone phones became affordable enough to appear regularly in homes four decades ago, it was thanks in part to the production of low-cost transistors and associated circuit components developed by communications companies.

To increase dialing speed even further while eliminating the likelihood of dialing error, developers conducted extensive human factor tests that helped them determine the best positions for the buttons. The earliest touch-



tone phones only came equipped with 10 buttons; it wasn't until 1968 that AT&T added the star (*) and octothorpe (#) keys for use in extended services.

By the 1970s, home-owned touch-tone phones became widespread enough to start outnumbering their predecessors, the rotary dial phones. Until that point, rotary systems had been the best available option since they replaced crank phones in the 1950s.

Membership continued from page 1

transport areas (LATAs). Others participate in the National Coordinating Center for Telecommunications – Information Sharing and Analysis Center. Some of our members hold status as major players in the communication equipment manufacturers industry.

There are currently 22 ACN members operating a combined total of 37 ACN sites throughout the country. The membership generally falls within four categories: regional operating companies, competitive local exchange carriers, telecommunications equipment manufacturers and Government. Of the 22 members, nine manage more than one ACN site. The current membership is appropriate to meet ACN mission requirements, and each member meets one or more of the qualifications mentioned above.

The NCS looks forward to working together toward another year of successful network operation.

ACN Program Management Office

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E-mail: smc@arrowhead.com

24/7 ACN Help Desk:

1-877-441-9330

Monthly Test

3rd Monday of the Month

10am - 2pm EST